

## The identity of *Musca albomaculata* Macquart, 1843, and *Musca dorsomaculata* Macquart, 1843 (Diptera: Muscidae)

by

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### SYNOPSIS

The types of *Musca albomaculata* and *Musca dorsomaculata* are studied and a lectotype is designated for *dorsomaculata*. The synonymy of these two names with *xanthomelas* Wiedemann, 1830, is confirmed.

In the course of preparation by one of us (A. C. P.) of the family Muscidae for *A Catalogue of the Diptera of the Afrotropical Region* (Crosskey *et al.*, in prep.), it was felt desirable to examine the types of several of the more contentious names in the literature on *Musca*, and the present notes are published as a clarification of two of the species described by Macquart from Mauritius. The treatment of the names by Patton (1922–1936) has been sufficiently varied to cause Hennig (1964: 1031) to list them as doubtful synonyms of *xanthomelas* Wiedemann with the comment 'in der Synonymie von *xanthomelas* herrscht eine bedauerliche Verwirrung', and we feel that this justifies the publication of these notes even though the synonymy given is not new.

### *Musca albomaculata* Macquart

*Musca albomaculata* Macquart, 1843a: 308 (1843b: 151). Holotype ♀, MAURITIUS. In the Muséum National d'Histoire Naturelle, Paris [see notes below].

The 'type' of *albomaculata* was seen by Villeneuve (1916: 513) who synonymized the name with *convexifrons* Thomson, 1869, and Patton (1922: 420) followed this action and used *albomaculata* as a valid specific name with *convexifrons* *auctt.* as a synonym.

Patton himself saw the 'type' (1923: 333) and synonymized *albomaculata sensu* Villeneuve and Patton with *xanthomelas* Wiedemann, 1830. In a later report (1925: 197) he again used the name for a species, but was still uncertain about its precise identity and status; he repeated (1925: 198) the synonymy of *albomaculata sensu* Villeneuve with *xanthomelas*. These opinions were repeated in his revision of the Ethiopian *Musca* (1926: 41, 48).

In a final paper (1936: 481) Patton included *albomaculata* as a junior synonym of *xanthomelas* Wiedemann, 1830, and in this he has been followed without comment by Zielke (1971: 128).

Bezzi (1911: 86, 88; 1923: 81) used *albomaculata* as a valid specific name, and Emden (1939: 74) identified *albomaculata sensu* Bezzi as *cuthbertsoni* Patton, 1936

(now a junior synonym of *domestica* ssp. *calleva* Walker, 1849). Séguy (1933: 62, 63; 1939: 144, 145) has also used the name for an African species, but it is not known in which sense he was using the name.

West (1951: 136) and Peris (1967: 58) have listed some of these misidentifications, and Hennig (1964: 1032) has thrown fresh doubt on the synonymy of the name *albomaculata* with *xanthomelas*.

In the Macquart collection at the Muséum National d'Histoire Naturelle, there are four specimens standing over the name *albomaculata*, no. 983 of box 27. Two of these are females from Mauritius: they bear a standard printed label 'Coll. Guérin-Méneville, 1871' (this is the year of accession), and cannot be part of the type-series although, as one of them is labelled 'Musca albomaculata Macq.' in Macquart's hand, they must have been identified by Macquart himself; six specimens from the same series are in the General Collection under *albomaculata*. All these specimens have hairs in the propleural depression and belong to *domestica* Linnaeus, 1758.

The third specimen, a female with the accession no. 4186/33, is in very poor condition and does not agree with the original description: for example, Macquart writes that the frons has 'côtés à duvet argenté' whereas this female has the parafrontalia golden pruinose. This and the presence of hairs in the propleural depression shows that this is a female of *domestica*.

The fourth specimen is a female with the accession no. 879/37. The register entry for this collection runs: 'Insectes Coléoptères, Hémiptères, Lépidoptères, Hyménoptères et Diptères recueillis par Mr. Desjardin à l'Ile de France et donnés au museum d'histoire naturelle de Paris.' It is in perfect condition and has been labelled by Macquart 'No. 71 Musca albomaculata'. It agrees with Macquart's description, and we have accordingly labelled it as holotype. It belongs to the subgenus *Eumusca* Townsend, 1911, with setulae confined to the outer (anterior) part of the supra-squamal ridge, and is a junior synonym of *xanthomelas* Wiedemann, 1830, as defined by Emden (1939: 80) and Zielke (1971: 128).

#### *Musca dorsomaculata* Macquart

*Musca dorsomaculata* Macquart, 1843a: 309 (1843b: 152). Lectotype ♂, MAURITIUS. In the Muséum National d'Histoire Naturelle, Paris [see designation below].

*M. dorsomaculata* has not had such a chequered history as *albomaculata* as it has often been placed in synonymy with *albomaculata*. The 'type' was seen by Villeneuve (1916: 513) who synonymized the name with *convexifrons* Thomson, and his opinion was quoted by Patton (1922: 420) who synonymized *dorsomaculata* and *convexifrons* auctt. with *albomaculata*.

Patton himself saw the 'type' (1923: 333) and synonymized *dorsomaculata* sensu Villeneuve and Patton with *xanthomelas* Wiedemann. In a subsequent report (1925: 197) he synonymized *dorsomaculata* with *albomaculata* but could not positively identify the species with any that he knew; and he also repeated (1925: 198) the synonymy of *dorsomaculata* sensu Villeneuve with *xanthomelas*. In his revision of Ethiopian *Musca* (1926: 41, 48), these opinions were restated.

In his final paper (1936: 481) Patton placed *dorsomaculata* unambiguously in synonymy with *xanthomelas*, an action which has been followed by West (1951: 138)

and Zielke (1971: 128). Hennig (1964: 1032) quite justifiably raised doubts as to this synonymy because of Patton's varying statements and interpretations of *xanthomelas*.

In the Macquart collection at the Muséum National d'Histoire Naturelle, there are eight specimens standing over the name *dorsomaculata*, no. 984 of box 28. All are from Mauritius and all but one are labelled with the accession no. 879/37, the same collection from Mauritius donated by Desjardins that contained the holotype of *albomaculata* (see note above). In addition, one male is labelled by Macquart 'No. 70 *Musca dorsomaculata*'.

One male and one female, the latter without the accession number, are labelled '19', probably by Macquart, and they appear not to be syntypes. In any case they belong to *Musca domestica* and do not agree with Macquart's description of the frons as 'à duvet blanc . . . linéaire ♂, et ne présentant qu'un espace triangulaire'.

The remaining six specimens are regarded as syntypes, and they consist of 3 ♂ and 3 ♀. The male with Macquart's label lacks the right mid leg but is otherwise in good condition. We have labelled it and designate it herewith as lectotype. The remaining five syntypes have been labelled as paralectotypes.

All six specimens are conspecific, and, like the holotype of *albomaculata*, belong to the subgenus *Eumusca* Townsend. *M. dorsomaculata* is a junior synonym of *xanthomelas* Wiedemann, 1830, as defined by Emden (1939: 80) and Zielke (1971: 128).

It is worth noting that when we examined these specimens several of them already had the lower squama bent back or broken off to reveal the setulae on the outer (anterior) part of the supra-squamal ridge characteristic of the subgenus *Eumusca*.

One of the reasons for Patton's confusion over the identity of *dorsomaculata* was the apparent presence of only two black postsutural mesonotal vittae in the male but of four vittae in the female (Patton 1925: 197). In fact the males do have the dark vittae divided after the suture, but by only very narrow lines of pale dust that are not immediately apparent, and the mesonotum is truly quadrivittate. This reduction of the pale dust separating the vittae is often found in males of *xanthomelas* and *lusoria* Wiedemann, and keys that rely on the presence of two or four dark vittae in distinguishing species of the subgenus *Eumusca* can be quite misleading.

#### REFERENCES

- BEZZI, M., 1911. Miodarii superiori raccolti dal signor C. W. Howard nell'Africa australe orientale. *Boll. Lab. Zool. gen. agr. R. Scuola Agric. Portici*, 6: 45-104, 4 figs.
- 1923. Diptera, Bombyliidae and Myiophoridae (Coenosiinae, Muscinae, Calliphorinae, Sarcophaginae, Dexiinae, Tachininae), from the Seychelles and neighbouring Islands. *Parasitology*, 15 (1): 75-102, 9 figs.
- CROSSKEY, R. W., et al. In prep. *A Catalogue of the Diptera of the Afrotropical Region*. London.
- EMDEN, F. I. VAN, 1939. Muscidae: A. — Muscinae and Stomoxydinae. *Ruwenzori Expedition 1934-5*, 2 (3): 49-89, 8 figs. London.
- HENNIG, W., 1955-1964. Muscidae. In Lindner, E., *Fliegen palaearkt. Reg.*, 63b: 1110 pp., 33 plates, 429 text-figs. Stuttgart.
- MACQUART, J., 1843a. Diptères Exotiques nouveaux ou peu connus. [Tome deuxième.—3.<sup>e</sup> partie.] *Mém. Soc. Sci. Agric. Lille*, 1842: 162-460, 36 plates.
- 1843b. Ibidem, reprinted with pagination 5-304, 36 plates.
- PATTON, W. S., 1922. Notes on the species of the genus *Musca* Linnaeus—Part I. *Bull. ent. Res.*, 12 (4): 411-426.
- 1923. A new Oriental species of the Genus *Musca*, with a note on the occurrence of *Musca dasyops* Stein in China and a revised list of the Oriental species of the genus *Musca* Linnaeus. *Philipp. J. Sci.*, 23: 323-335.
- 1925. Diptera of Medical and Veterinary Importance, I. Types of Older Authors in Continental Museums. *Philipp. J. Sci.*, 27: 177-200.

- PATTON, W. S., 1926. The Ethiopian species of the Genus *Musca* Linnaeus. *Rec. Indian Mus.*, **28** (1): 29–52, plates 1–4.
- 1936. Studies on the Higher Diptera of Medical and Veterinary Importance. A Revision of the Species of the Genus *Musca*, based on a Comparative Study of the Male Terminalia. III.—A Practical Guide to the Ethiopian Species. *Ann. trop. Med. Parasit.*, **30** (4): 469–490, 11 figs.
- PERIS, S. V., 1967. Los Muscini de la Guinea Española. Claves para la identificación y notas sobre las especies etiópicas (Diptera, Muscidae). *Boln R. Soc. esp. Hist. nat. (Secc. Biol.)*, **65**: 21–64, 6 figs.
- SÉGUY, E., 1933. Contributions à l'étude de la faune du Mozambique. Voyage de M. P. Lesne (1928–1929). 13.<sup>e</sup> Note.—DIPTÈRES (2.<sup>e</sup> partie). *Mems Estud. Mus. zool. Univ. Coimbra* (1), **67**: 1–80, 19 figs.
- 1939. Diptera (ex. Culicidae). In *Missione Biologica nel Paese dei Borana. Raccolte Zoologiche*. Volume 3, part 2: 123–148, 4 figs. Roma.
- VILLENEUVE, J., 1916. A Contribution to the Study of the South African Higher Myodarii (Diptera Calyptratae) based mostly on the Material in the South African Museum. *Ann. S. Afr. Mus.*, **15** (6): 469–515, 8 figs.
- WEST, L. S., 1951. *The Housefly. Its Natural History, Medical Importance, and Control*. xi + 584 pp., 176 figs., 16 tables, 1 photograph. New York.
- ZIELKE, E., 1971. Revision der Muscinae der äthiopischen Region. *Series ent.*, **7**: viii + 199 pp., 23 figs.

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